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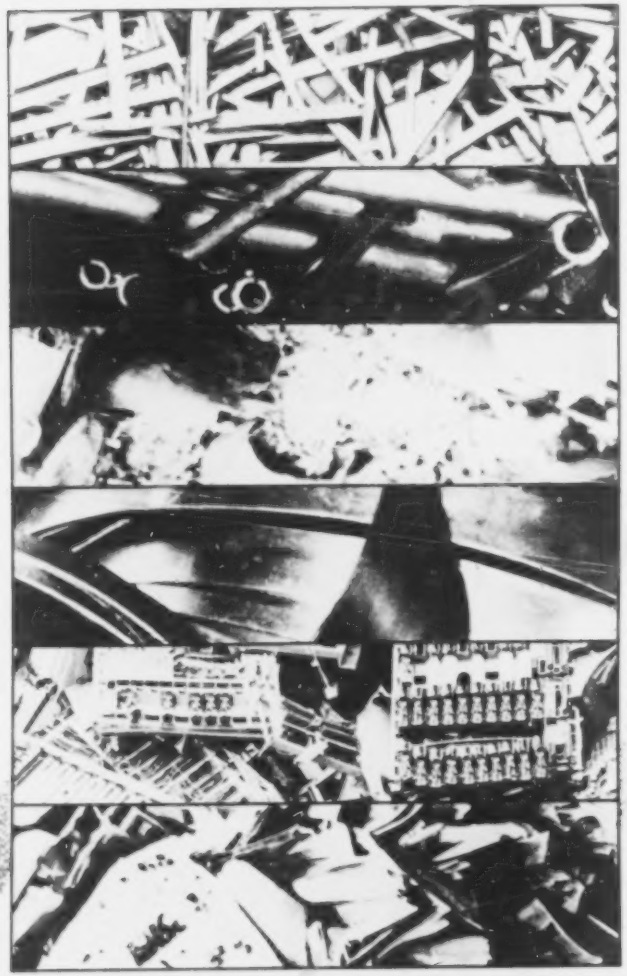

1987 YEARBOOK

A SUMMARY OF FERROUS, NONFERROUS METALS, PAPER AND TEXTILE STATISTICS

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Ferrous, Nonferrous Base Metals (short tons)

Aluminum

Year	Apparent Scrap Consumption*	Scrap Exports	Scrap Market Share
1977	1,568,215	101,663	24%
1978	1,616,514	147,777	23%
1979	1,705,031	243,921	24%
1980	1,693,633	376,288	28%
1981	2,012,423	184,435	32%
1982	1,978,888	170,611	33%
1983	2,107,630	241,926	31%
1984	2,092,891	241,200	29%
1985	2,070,719	356,478	31%
1986	2,075,140	330,914	31%
1987	2,042,116	338,940	30%

Copper

Year	Apparent Scrap Consumption*	Scrap Exports	Scrap Market Share
1977	1,158,528	119,915	39%
1978	1,335,055	123,045	40%
1979	1,668,838	188,576	46%
1980	1,545,555	210,518	46%
1981	1,521,534	161,187	49%
1982	1,268,727	160,951	48%
1983	1,155,098	150,724	40%
1984	1,191,350	207,520	40%
1985	1,222,652	308,827	40%
1986	1,208,517	316,741	40%
1987	1,257,149	324,372	40%

Iron and Steel (000 s.t.)

Year	Apparent Scrap Consumption*	Scrap Exports	Scrap Market Share
1977	41,933	5,447	29%
1978	46,068	7,835	30%
1979	46,963	9,595	30%
1980	40,954	9,693	33%
1981	41,981	5,575	31%
1982	27,994	6,563	33%
1983	34,219	7,369	36%
1984	36,060	9,235	35%
1985	38,818	9,612	39%
1986	38,004	11,380	42%
1987	46,164	10,039	47%

Lead

Year	Apparent Scrap Consumption*	Scrap Exports	Scrap Market Share
1977	702,000	85,411	45%
1978	716,000	108,724	46%
1979	742,000	131,999	49%
1980	640,000	131,893	55%
1981	637,000	65,498	51%
1982	574,000	57,047	47%
1983	498,000	56,127	40%
1984	646,000	49,710	51%
1985	628,000	66,082	50%
1986	634,000	68,340	50%
1987	725,000	57,785	55%

Stainless Steel

Year	Apparent Scrap Consumption*	Scrap Exports	Scrap Market Share
1977	421,000	66,665	56%
1978	374,000	102,630	31%
1979	406,000	100,011	30%
1980	363,000	105,795	32%
1981	431,000	56,678	37%
1982	406,000	131,338	45%
1983	480,000	80,299	42%
1984	549,000	163,542	44%
1985	557,000	179,583	45%
1986	543,000	164,120	46%
1987	644,000	168,601	46%

Zinc

Year	Apparent Scrap Consumption*	Scrap Exports	Scrap Market Share
1977	230,190	8,204	21%
1978	199,712	16,519	17%
1979	224,546	31,029	20%
1980	201,764	32,565	23%
1981	223,858	29,571	24%
1982	188,272	18,595	24%
1983	226,044	23,085	25%
1984	264,203	31,890	28%
1985	240,803	42,544	23%
1986	165,507	69,659	15%
1987	186,404	90,815	18%

* Apparent scrap consumption is a descriptive term. For purposes of analyses, refer to the individual metals for a complete definition.

Al

Aluminum: A light, silvery-white, ductile metal with high electrical conductivity and good resistance to corrosion. Symbol Al, melting point, 660.2° C. Aluminum is the basis for many light alloys.

Aluminum: 10 Year Review (short tons)

Year	Primary Production	Purchased New and Old Scrap	Imports metal and scrap	Exports	Stocks (includes scrap)	Stock Changes	Apparent Consumption[1]	Scrap Market Share[2]
1977	4,539,000	1,568,215	835,554	410,956	2,853,178	+ 37,854	6,493,959	24.1%
1978	4,804,000	1,616,514	1,079,753	519,881	2,746,978	− 106,200	7,086,586	22.8%
1979	5,023,000	1,705,031	839,966	773,385	2,555,920	− 191,058	6,985,670	24.4%
1980	5,130,000	1,693,633	713,040	1,483,211	2,538,002	− 17,918	6,071,380	27.8%
1991	4,948,000	2,012,423	935,162	867,174	3,303,325	+ 765,323	6,263,088	32.1%
1982	3,609,000	1,978,888	968,056	824,469	3,099,740	− 203,585	5,935,060	33.3%
1983	3,696,000	2,107,630	1,202,814	855,081	2,504,616	− 595,124	6,746,487	31.2%
1984	4,518,000	2,092,891	1,628,310	808,882	2,650,000	+ 145,384	7,284,935	28.8%
1985	3,857,000	2,070,719	1,565,204	1,000,752	2,350,000	− 300,000	6,792,171	30.5%
1986	3,348,000	2,075,140	2,167,857	830,022	2,240,000	− 110,000	6,733,055	30.9%
1987	3,686,000	2,042,116	2,038,519	1,010,765	2,087,757	− 147,243	6,903,113	29.6%

Source: U.S. Bureau of Mines, Bureau of the Census

[1] Apparent Aluminum Consumption: Defined as refined production + old and new scrap consumed + net trade + stock change

[2] Scrap Market Share: Calculated from purchased scrap (column 3) divided by apparent consumption (column 8).

Used Beverage Can (UBC) Consumption (000 pounds)

	1981	1982	1983	1984	1985	1986	1987
Producers	980,000	1,010,000	1,053,000	1,167,700	1,193,775	1,163,931	1,243,000
Secondary smelters, Other consumers	30,000	28,000	24,000	25,000	24,225	14,784	30,700
Exporters	8,000	4,000	3,000	3,800	13,814	13,480	60,500
Total	1,018,000	1,042,000	1,080,000	1,196,500	1,231,814	1,192,195	1,335,000
Recycling rate	49.2%	46.5%	50.0%	51.3%	50.5%	47.1%	50.5%
Cans per pound	23.0	23.0	23.0	25.9	26.6	27.0	27.4
Cans shipped (Billions of Cans)	47.6	51.7	56.7	60,452	64,908	68,343	72,458

Sources: NARI, ISRI

U.S. Consumption of Purchased New & Old Aluminum Scrap (short tons)

All Scrap Consumed: New Scrap	1980 Consumption	1981 Consumption	1982 Consumption	1983 Consumption	1984 Consumption	1985 Consumption	1986 Consumption	1987 Consumption
Solids	679,424	793,707	702,300	759,026	744,754	713,802	771,379	737,251
Borings and turnings	174,983	177,806	165,617	184,675	185,117	165,002	179,540	162,062
Dross and skimmings	120,595	113,563	118,008	121,649	107,231	95,132	66,811	45,553
Other	60,472	54,535	53,203	55,531	67,107	91,677	102,695	139,993
Total new scrap	1,035,474	1,139,611	1,039,128	1,120,881	1,104,209	1,065,613	1,130,425	1,084,859
Old Scrap								
Castings, sheet, clippings	218,278	227,866	221,808	265,807	254,659	221,292	244,213	249,485
Aluminum-copper radiators	17,842	18,563	21,627	24,398	22,604	18,678	18,303	13,879
Aluminum cans	299,244	508,305	563,726	574,182	598,306	628,851	552,258	583,756
Other	40,243	32,203	45,000	32,347	33,125	25,023	36,347	29,008
Total old scrap	575,607	786,937	852,161	896,734	908,694	893,844	851,121	876,128
Sweated pig	82,552	85,875	87,599	90,015	79,988	111,262	93,594	81,129
Total all scrap	1,693,633	2,012,423	1,978,888	2,107,630	2,092,891	2,070,719	2,075,140	2,042,116

Source: U.S. Bureau of Mines

U.S. Scrap Exports of Aluminum by Country (short tons)

Country	1982	1983	1984	1985	1986	1987
Belgium	3,233	609	1,543	3,006	3,561	1,333
Brazil	1,956	42	233	837	3,819	2,080
Canada	20,571	23,089	19,116	13,426	12,867	20,785
France	188	217	298	287	350	2,455
Germany, Federal Republic of	3,002	2,190	5,197	4,419	4,281	1,878
India	99	246	24	—	77	—
Italy	3,060	664	2,860	5,226	7,569	3,392
Japan	116,514	194,339	154,560	246,692	222,978	234,261
Korea, Republic of	1,591	924	970	595	1,862	5,411
Mexico	12,238	12,598	33,349	48,958	27,538	22,734
Netherlands	1,658	164	4,126	5,788	5,413	5,073
Republic of SAF	677	3,072	18	—	—	—
Spain	3,479	444	696	1,550	1,169	708
Taiwan	850	2,103	16,962	23,394	37,561	35,169
United Kingdom	574	80	227	1,692	455	940
Other	921	1,144	965	584	1,491	2,643
Total[1]	170,611	241,926	241,200	356,478	330,914	338,940

Source: Department of Commerce

[1] Data may not add to totals shown because of independent rounding

Aluminum U.S. Transaction Price (cents per pound)

Month	1985	1986	1987
January	50.6	55.6	55.1
February	51.6	56.8	60.6
March	51.4	61.7	63.6
April	52.3	60.6	65.6
May	52.0	58.7	70.2
June	48.4	58.3	73.1
July	47.0	54.6	75.5
August	47.6	54.9	81.6
September	46.2	56.8	82.4
October	45.7	54.1	85.1
November	45.3	52.8	81.1
December	50.4	53.1	[illegible]
Average	49.0	56.5	73.3

Source: Metals Week

Aluminum LME Cash (cents per pound)

Month	1985	1986	1987
January	48.8	50.8	53.1
February	49.8	50.6	58.2
March	49.7	53.0	62.0
April	50.2	52.8	63.5
May	50.1	52.8	64.0
June	46.8	63.2	66.8
July	45.9	50.9	75.0
August	46.2	51.2	82.1
September	44.7	54.7	79.2
October	44.0	52.7	89.0
November	43.1	51.3	76.2
December	47.1	51.4	82.7
Average	47.8	52.2	70.8

Source: Metals Week

Scrap Aluminum Clipping[1] Price (cents per pound)

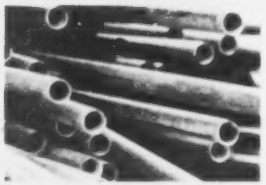
Year	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1977	17.00	18.18	21.50	21.50	21.45	21.09	22.00	22.70	21.50	20.50	21.63	23.00	21.00
1978	23.71	25.50	25.41	38.20	28.50	28.50	28.50	28.50	28.50	28.50	28.60	30.00	27.70
1979	31.50	32.97	36.05	40.69	45.55	44.79	43.69	42.40	41.55	43.59	44.90	45.50	41.14
1980	48.64	51.18	56.35	51.00	46.88	43.17	45.05	48.02	48.50	48.50	47.32	44.50	48.26
1981	44.50	42.92	42.50	42.41	40.20	38.50	38.50	38.50	37.69	35.77	33.18	31.00	38.81
1982	30.50	30.50	29.48	28.00	27.80	24.98	24.50	24.50	24.50	24.50	23.10	22.50	26.24
1983	23.12	25.50	27.50	27.50	31.02	33.50	35.00	39.24	41.50	41.50	40.85	40.50	33.89
1984	41.83	42.50	45.23	47.45	43.50	41.21	38.64	36.11	33.39	29.76	27.50	29.44	38.05
1985	31.25	30.00	30.00	30.00	28.82	26.50	26.31	24.50	24.50	24.50	24.50	24.50	27.12
1986	25.59	27.56	29.69	30.86	29.50	28.93	28.50	28.50	28.50	28.50	28.50	28.50	28.59
1987	28.50	28.50	31.23	34.50	36.10	37.50	39.14	43.07	43.50	47.32	47.50	47.50	38.70

Source: American Metal Market

[1] Clipping: Defined as segregated low copper-containing industrial scrap.

Cu

Copper: A reddish metallic element. Symbol Cu, melting point, 1,083° C, malleable, ductile, high electrical and thermal conductivity. Copper is the basis for brass, bronze, aluminum bronze and many other alloys.



Copper: 10 Year Review
(short tons)

Year	Refined Production	Purchased Old & New Scrap Recoverable	Import (refined only)	Export (refined only)	Refined Stocks (at year end)	Stock Change	Apparent Copper Consumption[1]	Scrap Market Share[2]
1977	1,496,169	1,158,528	390,772	51,527	234,000	+ 44,000	2,949,942	39.2%
1978	1,597,296	1,335,055	457,120	101,327	168,652	− 65,348	3,353,492	39.8%
1979	1,671,809	1,668,838	237,172	81,214	70,547	− 98,105	3,594,710	46.4%
1980	1,339,502	1,545,555	470,625	15,971	54,013	− 16,534	3,356,245	46.0%
1981	1,701,970	1,521,534	364,448	26,893	534,615	+ 480,602	3,080,457	49.3%
1982	1,352,277	1,268,727	284,877	33,684	767,201	+ 232,586	2,639,611	48.0%
1983	1,303,018	1,155,098	506,582	89,724	762,792	− 4,409	2,879,383	40.1%
1984	1,283,739	1,191,350	490,192	100,766	621,697	− 141,095	3,005,610	39.6%
1985	1,165,313	1,222,652	416,366	41,818	342,815	− 278,882	3,041,395	40.3%
1986	1,182,999	1,208,517	553,334	13,726	248,017	− 94,798	3,025,922	40.0%
1987	1,263,224	1,257,149	517,154	10,135	123,458	− 124,559	3,151,951	39.9%

Source: U.S. Bureau of Mines.
[1] Apparent Copper Consumption: Defined as refined production + old and new scrap recoverable + net refined trade + refined stock change.
[2] Scrap Market Share: Calculated from old & new scrap recoverable (column 3) divided by apparent copper consumption (column 8).

Copper Recovered from Copper-Base Scrap
(short tons)

Type of Operation	1985 New Scrap	1985 Old Scrap	1985 Total	1986 New Scrap	1986 Old Scrap	1986 Total	1987 New Scrap	1987 Old Scrap	1987 Total
Ingot Makers & Secondary	44,073	170,696	214,769	21,806	124,740	146,545	20,351	131,127	151,478
Electrolytic-refiners	107,342	308,729	416,071	135,228	312,551	447,779	145,374	311,666	457,040
Brass mills	511,386	17,794	529,180	520,584	34,819	555,404	553,543	35,563	589,106
Foundries & Manufacturers	21,869	35,045	61,687	20,473	35,045	55,518	21,164	38,360	59,524
Chemical plant	942	3	946	343	2,928	3,271	—[1]	—[1]	—[1]
Total	685,613	537,039	1,222,652	698,434	510,083	1,208,517	740,432	516,716	1,257,148

Source: U.S. Bureau of Mines.
[1] Chemical plant included with foundries & manufacturers.

Consumption of Purchased Copper Scrap in the U.S. (short tons—gross weight)

Year	New Scrap	Old Scrap	Total Scrap Consumption
1977	962,629	611,937	1,574,566
1978	1,078,810	732,246	1,811,056
1979	1,370,039	915,278	2,285,317
1980	1,168,245	877,007	2,040,252
1981	1,155,853	856,469	2,012,322
1982	942,768	727,048	1,669,816
1983	889,821	633,135	1,522,955
1984	949,241	630,858	1,580,099
1985	926,876	629,328	1,556,204
1986	972,353	675,595	1,647,948
1987p	976,814	733,496	1,710,310

Source: U.S. Bureau of Mines
p = preliminary

U.S. Exports of Copper Scrap by Country (short tons)

Country	1982	1983	1984	1985	1986	1987
Belgium-Luxembourg	7,216	7,905	5,632	17,342	9,736	10,103
Canada	23,695	33,858	46,040	44,698	37,779	35,344
France	532	320	280	409	312	106
Germany, Federal Republic of	9,581	3,665	7,266	37,468	14,710	13,267
Hong Kong	20	470	704	2,874	7,141	4,237
India	18,419	6,852	10,399	16,338	19,044	13,437
Italy	57	3	3,535	17,358	35,194	13,966
Japan	27,913	21,625	47,779	42,155	42,154	43,553
Korea, Republic of	34,852	25,771	22,950	28,976	29,472	39,594
Mexico	4,563	15,388	17,571	17,746	6,667	19,844
Netherlands	2,389	11,642	1,747	8,709	3,531	1,292
Spain	10,410	888	3,450	12,930	14,785	15,765
Sweden	3,086	5,959	3,046	2,227	2,622	1,739
Switzerland	447	494	551	1,198	418	181
Taiwan	8,965	14,631	33,455	43,880	75,848	91,969
United Kingdom	3,396	969	1,169	6,597	6,125	3,884
Other	5,409	284	1,946	7,919	11,202	16,091
Total	160,950	150,724	207,520	308,825	316,741	324,372

Source: Department of Commerce

Average Copper Price in the U.S.—Comex 1st Position
(cents per pound)

Month	1977	1978	1979	1980	1981	1982	1983	1984[1]	1985[1]	1986[1]	1987[1]
January	64.20	58.75	71.77	119.25	85.00	72.10	71.30	62.30	59.15	65.29	60.75
February	64.46	57.20	85.05	129.80	81.27	70.85	76.50	64.22	60.57	63.86	61.73
March	63.65	58.00	90.57	101.85	81.80	67.87	73.65	67.91	60.09	66.02	63.57
April	67.05	59.80	90.35	89.95	82.92	68.47	76.32	68.46	63.62	63.80	62.37
May	63.35	60.25	85.60	90.15	79.67	68.57	78.80	63.40	62.95	62.72	66.46
June	60.35	62.10	81.45	88.35	78.10	58.15	75.30	61.04	60.15	62.57	69.89
July	57.95	61.00	81.95	97.40	78.15	63.20	76.70	58.60	60.78	58.94	76.19
August	53.55	64.57	90.05	91.70	79.62	66.47	72.80	59.35	60.19	57.59	77.63
September	55.30	64.22	98.87	93.62	76.37	62.85	69.37	57.06	59.57	60.71	80.99
October	56.15	66.87	101.00	92.45	75.15	62.20	64.52	56.34	60.97	59.19	83.04
November	55.05	66.10	97.50	91.30	73.77	64.60	64.35	59.63	60.64	58.93	103.92
December	58.55	67.60	103.85	84.05	73.65	67.30	64.02	57.54	63.18	60.17	127.49
Average	60.51	62.20	89.63	97.49	78.79	66.05	71.97	61.32	60.99	61.65	77.84

Source: Compiled by Commodity Exchange Inc.
Metals Week

Average Copper Price on the London Metal Exchange[1]—Cathode
(cents per pound)

Month	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
January	63.29	56.23	73.83	114.00	88.05	72.84	68.86	61.65	61.19	63.28	59.27
February	64.66	54.33	87.33	126.71	81.25	72.20	73.09	64.09	62.79	62.96	60.46
March	68.63	56.04	92.40	100.45	81.94	68.27	71.13	67.79	62.91	65.26	62.36
April	64.75	57.48	95.29	90.96	81.90	68.60	74.58	69.36	67.11	64.93	63.85
May	62.19	58.31	85.91	90.79	78.38	68.62	77.50	64.49	67.67	63.29	66.27
June	59.51	59.98	82.57	88.26	76.53	58.32	74.87	62.10	64.31	63.20	69.85
July	56.60	60.31	80.06	95.80	75.85	63.86	74.61	60.64	64.73	58.44	76.68
August	52.54	64.12	86.18	91.09	80.90	63.41	72.14	61.14	62.40	57.52	79.51
September	54.20	64.43	92.04	90.30	77.45	62.39	68.77	58.94	60.74	59.43	81.86
October	54.86	67.22	92.61	89.70	75.29	62.47	63.58	57.87	61.57	58.27	87.63
November	53.62	65.58	92.63	89.00	74.55	62.15	61.88	61.43	60.70	57.71	109.67
December	57.13	68.22	97.00	83.21	74.70	63.74	63.06	60.30	62.13	58.68	123.40
Average	59.44	61.06	88.25	96.09	78.98	65.57	70.29	62.48	63.19	61.08	78.40

Source: *Metals Week*
[1] Based on average monthly rates of exchange. LME cash price.

Fe

Ferrous Metal: A metal with iron as its major constituent. Relatively heavy, usually magnetic, and in most of its forms, quite strong. Iron's symbol Fe; melting point, 1,535° C.

Scrap Iron and Steel: 10 Year Review
(000 net tons)

Year	Receipts From Dealers & Other Sources	Receipts From Other Own Company	Scrap Shipments	Net Domestic Consumption[1]	Raw Steel Production	Foundry Shipments	Steel Castings Shipments	Apparent Steel Consumption[2]	Market Share[3]
1977	37,804	9,903	5,774	41,933	124,746	15,936	1,677	142,359	29.4%
1978	41,714	10,074	5,720	46,068	137,031	16,914	1,857	155,802	29.5%
1979	43,901	9,290	6,228	46,963	136,341	16,117	2,039	154,497	30.3%
1980	39,310	7,527	5,883	40,954	111,835	12,249	1,878	125,962	32.5%
1981	40,030	7,359	5,408	41,981	120,828	12,223	1,743	124,794	31.1%
1982	27,520	4,195	3,721	27,994	74,577	8,499	916	83,992	33.4%
1983	32,808	5,011	3,600	34,219	84,615	9,524	726	94,865	36.0%
1984	34,325	5,624	3,889	36,060	91,531	10,900	940	103,371	34.9%
1985	37,362	5,983	4,527	38,818	88,259	10,126	889	99,274	39.1%
1986	37,123	4,700	3,819	38,004	81,606	8,653	829	91,088	41.8%
1987	43,428	5,746	3,010	46,164	88,472	10,110	874	99,456	46.5%

Sources: U.S. Bureau of Mines, American Iron & Steel Institute

[1] Net Domestic Consumption: Defined as receipts from dealers and other sources + other receipts − scrap shipments

[2] Apparent Steel Consumption: Defined as raw steel production + foundry shipments + steel castings shipments

[3] Scrap Market Share: Calculated from net domestic consumption (column 5) divided by apparent steel consumption (column 9)

Trend of U.S. Steel Production by Furnace
(millions of net tons and by percentage[1])

Year	Basic Oxygen Tons	Basic Oxygen Percentage	Electric Tons	Electric Percentage	Open Hearth Tons	Open Hearth Percentage
1977	77.4	61.8	27.9	22.2	20.0	16.0
1978	83.5	60.9	32.2	23.5	21.3	15.6
1979	83.3	61.1	33.9	24.9	19.2	14.0
1980	67.6	60.4	31.2	27.9	13.1	11.7
1981	73.2	60.6	34.1	28.3	13.5	11.1
1982	45.3	60.7	23.2	31.1	6.1	8.2
1983	52.1	61.5	26.6	31.5	6.0	7.0
1984	52.8	57.1	31.4	33.9	8.3	9.0
1985r	51.9	58.8	29.9	33.9	6.4	7.2
1986	47.9	58.7	30.4	37.2	3.3	4.0
1987	55.2	62.4	33.3	37.6	—[2]	—[2]

Source: American Iron and Steel Institute

[1] Calculated as a percentage of total steel production

[2] Included in Basic Oxygen

r = Revised

U.S. Exports of Ferrous Scrap[1] by Country
(000 net tons)

Country	1982	1983	1984	1985	1986	1987
Canada	289	514	736	415	342	308
Mexico	372	410	475	579	302	488
China	1	1	200	383	329	248
Greece	208	112	125	183	177	22
India	415	276	197	590	1,145	857
Italy	8	65	306	294	275	171
Japan	1,448	2,548	2,617	2,050	1,663	902
Korea, Republic of	1,431	1,467	1,824	1,969	2,972	2,642
Spain	855	346	578	867	645	401
Taiwan	313	468	393	399	633	401
Turkey	639	696	807	955	1,417	2,253
Venezuela	44	20	390	470	483	150
Other	520	446	587	458	997	1,196
Total	6,563	7,369	9,235	9,612	11,380	10,039

Source: U.S. Department of Commerce
[1] Excludes Alloy and Stainless Steel Scrap

U.S. Exports of Ferrous Scrap by Grade
(000 net tons)

Grade	1982	1983	1984	1985	1986	1987
Alloy steel scrap	110	70	100	133	160	139
Stainless steel scrap	131	80	164	180	164	169
Subtotal	241	150	264	313	324	308
No. 1 heavy melting scrap	1,883	1,895	2,512	2,767	2,923	2,431
No. 2 heavy melting scrap	626	720	879	777	797	588
No. 1 baled steel scrap	115	206	77	189	155	182
No. 2 baled steel scrap	181	220	286	290	301	366
Shredded steel scrap	2,023	2,029	2,775	2,559	3,495	3,328
Borings, shovelings and turnings	577	532	800	861	731	556
Other steel scrap[1]	768	1,445	1,316	1,070	1,174	1,342
Cut plate and structural[2]	—	—	—	434	714	477
Iron scrap	389	322	590	666	1,091	768
Total Iron and Steel Scrap	6,563	7,369	9,235	9,612	11,380	10,039

Source: U.S. Department of Commerce
[1] Includes terneplate and tinplate.
[2] Not reported separately prior to 1985.

U.S. Imports of Ferrous Scrap, Iron Ore, Pig Iron and Steel Products (millions of net tons)

Year	Scrap[1]	Iron Ore	Pig Iron	Steel
1977	0.6	42.5	0.4	19.9
1978	0.8	37.6	0.7	22.0
1979	0.8	37.8	0.5	17.5
1980	0.6	28.1	0.5	15.5
1981	0.5	31.7	0.5	19.9
1982	0.5	16.4	0.3	16.7
1983	0.6	14.9	0.2	17.1
1984	0.6	19.2	0.7	26.2
1985	0.6	17.7	0.3	24.3
1986	0.7	18.7	0.3	20.7
1987	0.8	NA	NA	20.4

Source: U.S. Bureau of Mines, for steel, American Iron and Steel Institute (included in data).
NA - Not available.

Purchased Scrap Receipts, Home Scrap Production and Ferrous Scrap Consumption by Grade (000 net tons)

Total-All Types of Manufacturers	1985 Purchased Scrap Receipts[1]	1985 Home Scrap Production	1985 Total Scrap Consumed	1986 Purchased Scrap Receipts[1]	1986 Home Scrap Production	1986 Total Scrap Consumed	1987 Purchased Scrap Receipts[1]	1987 Home Scrap Production	1987 Total Srap Consumed
Grade of Scrap Carbon Steel									
Low-phosphorus plate and punchings	1,922	434	2,251	1,869	327	2,126	1,881	341	2,197
Cut structural and plate	2,345	515	3,005	2,267	515	2,781	3,969	487	4,338
No. 1 heavy melting steel	8,110	9,046	17,249	7,374	6,992	14,853	9,338	6,259	16,757
No. 2 heavy melting steel	3,045	947	4,016	3,131	870	3,998	3,567	917	4,414
No. 1 and electric furnace bundles	5,273	1,644	7,397	5,586	1,533	7,313	6,105	1,187	7,093
No. 2 and all other bundles	1,310	12	1,372	969	8	1,041	979	71	1,071
Electric furnace 1 foot and under	166	31	188	247	32	279	269	29	294
Railroad rails	304	10	365	349	9	392	614	54	659
Turnings and borings	1,260	287	1,561	952	303	1,302	1,041	196	1,263
Slag scrap (Fe content 70%)	367	2,455	2,824	246	1,885	2,163	665	1,980	2,432
Shredded or fragmentized	5,009	175	5,342	5,303	55	5,563	6,044	130	6,225
No. 1 Busheling	1,741	300	2,103	1,810	241	2,117	2,576	151	2,696
All other carbon steel scrap	2,357	6,633	9,095	2,509	6,674	9,295	2,993	5,668	9,153
Stainless steel scrap	557	503	1,066	543	457	1,043	655	501	1,169
Alloy steel (except stainless)	276	1,170	1,488	123	1,099	1,364	291	807	1,197
Ingot mold scrap	234	1,476	1,759	209	1,130	1,372	350	946	1,349
Machinery and cupola cast iron	871	293	1,174	916	283	1,192	1,115	234	1,312
Cast iron borings	1,373	126	1,482	1,282	96	1,353	964	86	1,051
Motor blocks	470	825	1,302	449	818	1,264	506	973	1,466
Other iron scrap	1,023	3,061	4,115	1,008	2,603	3,649	1,540	2,390	4,221
Other scrap	803	506	1,339	862	463	1,391	945	443	1,371
Total scrap[2]	38,818	30,448	70,493	38,004	26,394	65,856	46,164	24,133	68,923

Source: U.S. Bureau of Mines
[1] Receipts less shipments
[2] Data may not add to shown totals because of sampling differences; estimation procedure revised beginning 1987

No. 1 Heavy Melting Steel Scrap Composite Price[1] (dollars per gross ton)

Year	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1987	$76.00	77.09	74.56	73.17	75.08	77.30	79.58	84.57	94.08	108.92	101.83	99.17	85.17
1986	73.34	75.50	73.57	72.41	71.50	70.90	71.83	75.10	74.17	73.17	74.17	74.24	73.33
1985	81.00	83.15	86.75	78.70	70.50	66.34	68.97	74.17	72.43	71.17	68.83	70.23	74.35
1984	92.70	94.92	91.25	90.17	89.08	85.17	81.90	82.25	85.00	82.90	79.09	79.03	86.12
1983	61.30	70.00	73.09	71.00	67.70	70.84	71.75	75.04	77.17	77.97	81.42	89.50	73.90
1982	84.34	82.17	76.84	71.34	62.67	58.04	56.00	55.90	56.17	52.20	51.24	52.59	63.55
1981	98.58	99.50	105.23	101.75	95.42	89.37	90.17	94.63	90.42	81.17	75.63	76.42	91.53
1980	99.67	105.00	101.17	92.25	77.50	69.70	76.08	84.42	94.43	95.91	98.50	101.57	91.35
1979	97.56	110.75	119.75	99.96	97.75	100.83	96.10	90.33	88.08	87.30	92.50	94.10	97.81
1978	70.56	72.08	74.25	76.08	71.90	74.76	77.75	76.33	72.91	74.83	83.41	89.91	76.23
1977	72.16	72.33	73.50	71.92	65.30	61.91	61.25	61.37	58.83	49.10	49.50	60.59	63.15

Source: *Iron Age*.
[1] Average price of No. 1 heavy melting steel scrap delivered to consumers at Pittsburgh, Philadelphia and Chicago.

No. 2 Bundles Composite Price[1] (dollars per gross ton)

Year	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1987	$51.42	51.17	50.37	49.83	51.09	52.70	54.17	54.03	60.75	71.83	69.77	65.83	56.91
1986	52.83	53.83	53.56	53.08	52.17	51.77	52.50	53.70	51.67	50.50	50.50	50.50	52.22
1985	53.00	55.25	57.50	55.24	49.51	47.17	50.04	53.83	53.04	52.25	50.67	50.63	52.34
1984	59.96	62.50	62.41	61.03	60.16	56.50	51.10	51.16	51.83	51.16	51.09	51.10	55.84
1983	42.84	48.84	51.84	48.84	46.57	46.34	45.75	45.50	46.57	46.57	49.34	58.17	48.80
1982	56.50	56.17	51.24	47.58	44.84	42.84	41.84	41.84	41.17	39.42	38.70	38.50	45.05
1981	71.83	71.83	73.83	75.08	68.08	61.57	61.58	62.50	61.66	56.50	53.43	53.75	64.31
1980	62.50	67.41	65.90	60.83	53.83	50.70	54.00	62.66	67.90	70.91	72.75	75.23	63.71
1979	61.56	68.17	73.25	63.43	65.75	67.50	62.76	58.58	57.41	56.76	58.58	61.03	62.89
1978	47.90	49.25	50.50	51.17	48.50	49.03	51.16	49.75	47.50	47.83	53.66	57.16	50.28
1977	49.30	48.75	50.08	50.25	46.03	42.58	41.83	43.56	41.83	36.10	36.00	43.00	44.11

Source: *Iron Age*.
[1] Average price of No. 2 bundles delivered to consumers at Pittsburgh, Philadelphia and Chicago.

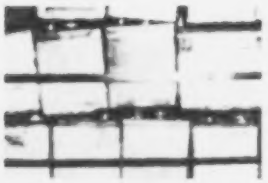
Finished Steel Composite Price[1] (cents per pound)

Year	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1987	25.236	25.236	25.236	25.236	25.236	25.236	25.236	24.804	24.804	26.002	26.002	26.002	25.356
1986	24.607	24.607	24.607	24.607	24.709	24.850	24.850	24.854	24.951	24.951	24.951	24.951	24.792
1985	27.582	27.582	27.582	27.582	27.582	27.582	27.582	27.582	27.582	27.582	27.582	27.582	27.582
1984	26.822	26.939	26.939	26.939	27.405	27.405	27.582	27.582	27.582	27.582	27.582	27.582	27.313
1983	25.297	25.978	25.954	25.954	25.954	25.954	25.954	25.954	26.822	26.822	26.822	26.822	26.190
1982	25.195	25.195	25.195	25.297	25.297	25.297	25.297	25.297	25.297	25.297	25.297	25.297	25.271
1981	22.901	23.362	23.598	23.776	23.776	24.232	24.488	24.488	24.488	25.195	25.195	25.195	24.224
1980	20.943	21.038	21.168	21.739	21.739	21.739	21.736	21.736	21.736	21.982	22.019	22.286	21.655
1979	19.549	19.549	19.549	19.607	19.637	19.668	20.253	20.311	20.311	20.547	20.547	20.547	20.006
1978	16.294	17.324	17.393	17.670	17.670	17.670	17.875	18.719	18.719	18.719	18.719	18.719	17.957
1977	15.146	15.146	15.146	15.146	15.146	15.146	15.941	16.043	16.043	16.043	16.043	16.043	15.577

Source: *Iron Age*.
[1] Weighted index of steel bars, shapes, wire, rails, black pipe, hot and cold rolled sheet and strips.

Pb

Lead: Heaviest and softest of the common metals. Silvery-bluish-white, resists corrosion, highly malleable, poor conductor of electricity. Symbol Pb, melting point 327.5° C. Principally used in lead-acid storage batteries and other alloys.



Lead: 10 Year Review
(short tons)

Year	Primary Production	Recovered From Old Scrap	Imports (refined only)	Exports (refined only)	Stocks	Stock Changes	Apparent Consumption[1]	Lead Market Share[2]
1977	608,000	702,000	255,000	10,000	148,000	− 25,000	1,580,000	45%
1978	626,000	716,000	250,000	9,000	158,000	+ 10,000	1,575,000	46%
1979	637,000	742,000	202,000	12,000	219,000	+ 61,000	1,507,000	49%
1980	604,000	640,000	96,000	181,000	200,000	− 19,000	1,174,000	55%
1981	549,000	637,000	110,000	25,000	224,000	+ 24,000	1,247,000	51%
1982	570,000	574,000	105,000	62,000	188,000	− 36,000	1,222,000	47%
1983	572,000	498,000	195,000	22,000	170,000	− 18,000	1,262,000	40%
1984	429,000	646,000	180,000	8,000	157,000	− 13,000	1,260,000	51%
1985	545,000	628,000	147,000	30,000	196,000	+ 39,000	1,250,000	50%
1986	408,000	634,000	157,000	14,000	115,000	− 81,000	1,265,000	50%
1987e	412,000	725,000	207,000	11,000	121,000	+ 6,000	1,327,000	55%

Source: U.S. Bureau of Mines.
[1] Apparent consumption. Derived as primary production + recovered from old scrap + imports − exports ± stock changes.
[2] Lead market share. Calculated from recovered old scrap (column 2) divided by apparent consumption (column 8).
e = estimated.

Average Monthly U.S. Producer Prices of Lead[1]
(cents per pound)

Year	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1987	27.87	26.04	26.00	27.84	34.95	36.93	41.67	41.95	42.00	42.00	42.00	42.00	35.94
1986	18.35	17.79	18.20	18.73	19.38	22.07	21.94	22.78	23.44	25.55	28.01	28.68	22.08
1985	19.09	18.82	17.68	19.92	20.11	19.05	18.88	19.10	19.20	18.93	19.05	18.97	19.07
1984	25.12	24.07	25.03	26.43	25.37	28.16	30.51	28.24	24.18	22.33	25.25	21.89	25.55
1983	22.03	21.12	20.71	21.17	20.22	19.41	19.32	19.46	21.69	25.38	25.15	24.46	21.68
1982	29.67	28.70	27.64	26.06	26.09	24.76	27.18	25.82	25.32	23.19	21.61	20.47	25.54
1981	33.79	30.42	35.06	37.52	36.41	37.97	40.50	43.89	40.32	37.05	33.88	31.07	36.53
1980	49.88	49.56	49.22	44.02	36.00	34.19	35.60	40.96	42.26	45.00	43.81	38.97	42.46
1979	40.76	43.63	45.75	48.00	48.81	56.51	58.07	57.91	58.00	61.06	57.26	55.95	52.64
1978	33.00	33.00	33.00	33.00	31.00	31.00	31.00	32.17	34.06	36.61	38.00	38.00	33.65
1977	26.86	28.69	31.00	31.00	31.00	31.00	31.00	31.00	31.00	31.02	32.00	32.85	30.70

Source: Metals Week.
[1] Quotations for the U.S. on a nationwide, delivered basis.

Average London Metal Exchange Monthly and Yearly Quoted Prices of Lead (cents per pound)

Year	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1987	21.02	20.86	22.07	25.17	31.40	28.51	30.06	29.88	29.31	27.25	29.10	29.86	27.04
1986	16.69	16.64	16.64	16.74	17.06	18.96	17.21	17.77	18.45	19.69	21.45	23.48	18.43
1985	19.03	16.69	15.95	17.65	17.04	17.64	18.27	18.74	18.15	17.83	17.86	17.67	17.84
1984	18.01	18.33	20.82	21.83	20.54	21.95	22.37	21.18	18.20	18.67	19.96	18.83	20.12
1983	21.54	20.61	20.09	20.74	19.63	18.49	18.27	18.04	18.34	19.00	18.34	18.23	19.27
1982	29.37	28.01	27.75	26.05	26.05	23.59	25.03	23.70	23.35	22.54	20.96	20.30	24.66
1981	31.95	31.24	33.06	34.38	31.58	32.30	35.55	37.34	34.61	32.47	30.18	30.56	33.30
1980	50.66	52.93	50.72	43.88	35.49	33.44	36.74	38.65	40.01	39.50	36.89	33.68	41.21
1979	44.97	47.79	53.32	52.60	56.16	62.63	57.64	54.96	55.77	59.77	55.49	53.33	54.52
1978	30.03	26.42	26.35	25.96	24.65	25.84	26.39	28.96	31.41	37.63	36.47	38.93	29.86
1977	25.31	29.32	31.87	29.40	29.93	25.70	25.43	24.95	26.39	27.88	28.71	31.06	28.00

Source: Metals Week

U.S. Lead Scrap Export by Country (short tons)

Country	1982	1983	1984	1985	1986	1987
Belgium-Luxembourg	724	383	380	422	32	726
Brazil	530	5,340	6,461	15,956	17,788	8,035
Canada	20,219	17,315	6,743	4,006	2,910	10,310
Colombia	—	3,196	6,227	6,818	3,306	497
Denmark	389	259	474	—	1	—
Germany, Federal Republic	3,003	1,672	997	1,681	848	1,619
India	255	37	328	496	1,569	684
Italy	214	414	—	3,889	22	45
Japan	844	292	370	1,698	689	90
Korea, Republic of	4,138	4,715	1,709	3,365	6,140	4,968
Mexico	7,728	977	3,167	2,019	2,788	6,247
Netherlands	482	542	289	201	535	138
South Africa, Republic of	9,147	—	—	—	—	224
Taiwan	7,936	15,645	14,914	19,028	23,907	9,869
Trinidad & Tobago	—	1,152	3,903	75	—	—
United Kingdom	848	865	726	1,800	3,335	6,365
Venezuela	—	—	1,093	4,120	3,364	5,164
Other	589	3,323	1,929	508	1,107	2,804
Total[1]	57,047	56,127	49,710	66,082	68,340	57,785

Source: Department of Commerce

[1] Data may not add to totals shown because of independent rounding

Ni

Nickel: Hard, malleable, ductile, silvery-white metallic element. Symbol Ni, melting point, 1,453° C. Used in stainless steel and in other corrosion-resistant alloys; in coinage, electroplating and as a catalyst.

Nickel/Stainless Steel: 10 Year Review (net tons)

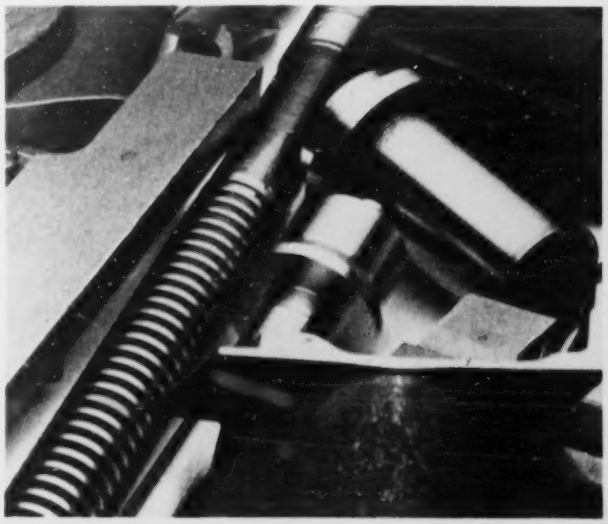
Year	Receipts From Brokers, Dealers & Other Sources	Receipts From Other Own Companies	Shipments of Scrap	Apparent Scrap Consumption[1]	Stainless Steel Shipments	Scrap Market Share[2]
1977	424,000	50,000	53,000	421,000	753,000	56%
1978	395,000	40,000	61,000	374,000	1,191,000	31%
1979	425,000	50,000	69,000	406,000	1,361,000	30%
1980	383,000	38,000	58,000	363,000	1,127,000	32%
1981	428,000	40,000	37,000	431,000	1,163,000	37%
1982	402,000	35,000	31,000	406,000	894,000	45%
1983	492,000	19,000	31,000	480,000	1,137,000	42%
1984	528,000	49,000	28,000	549,000	1,248,000	44%
1985	558,000	23,000	24,000	557,000	1,251,000	45%
1986	552,000	22,000	31,000	543,000	1,187,000	46%
1987	642,000	24,000	22,000	644,000	1,418,000	46%

Source: U.S. Bureau of Mines.
[1] Apparent Scrap Consumption: Defined as receipts from brokers, dealers and other sources + receipts from other own companies − scrap shipments (excludes home scrap).
[2] Scrap Market Share: Calculated from apparent scrap consumption (column 5) divided by stainless steel shipments (column 6).

Average Nickel Price—New York Dealer/Cathode (cents per pound)

Month	1985	1986	1987
January	2.27	1.89	1.70
February	2.31	1.88	1.73
March	2.36	1.91	1.77
April	2.46	1.89	1.82
May	2.51	1.94	2.10
June	2.50	1.95	2.17
July	2.35	1.88	2.26
August	2.32	1.85	2.47
September	2.17	1.80	2.48
October	2.02	1.76	2.63
November	1.90	1.75	2.73
December	1.93	1.74	3.47
Average	2.26	1.85	2.28

Source: *Metals Week*



Average Nickel Price on the London Metal Exchange (cents per pound)

Month	1985	1986	1987
January	2.24	1.83	1.60
February	2.29	1.81	1.69
March	2.36	1.87	1.71
April	2.49	1.81	1.77
May	—	1.83	2.01
June	2.52	1.85	2.01
July	2.31	1.77	2.16
August	2.22	1.73	—
September	2.07	1.69	—
October	1.92	1.65	2.58
November	1.83	1.65	—
December	1.86	1.62	3.47
Average	2.26	1.76	2.19

Source: Metal Week

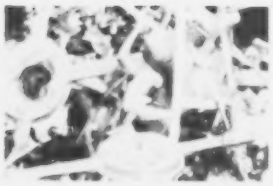
U.S. Exports of Stainless Steel by Country (net tons)

Country	1982	1983	1984	1985	1986	1987
Canada	6,033	6,819	14,145	7,509	6,614	12,853
Belgium	9,436	6,082	25,054	17,397	20,794	11,850
Brazil	2	—	—	18	694	3,452
Germany, Fed. Republic of	8,909	1,112	16,592	23,799	2,990	2,794
India	6,781	1,589	2,666	5,017	6,701	1,916
Italy	4,531	—	—	7,638	350	4,067
Japan	60,462	47,809	51,686	46,897	52,860	57,771
Korea	3,548	1,510	2,486	7,759	10,457	1,322
Netherlands	4,785	714	14,204	25,353	26,573	16,995
Spain	12,795	9,783	29,884	27,222	15,407	39,840
Sweden	9,478	1,180	3,290	3,791	13,668	5,438
Taiwan	1,480	1,124	833	472	2,287	4,257
Other	3,098	2,577	2,702	6,711	4,725	6,046
Total	131,338	80,299	163,542	179,583	164,120	168,601

Source: Department of Commerce

Zn

Zinc: A lustrous, bluish-white metallic element. Symbol Zn, melting point, 419.47° C. Used in many alloys including brass, bronze, nickel silver, and other metals to protect them against corrosion.



Zinc: 10 Year Review
(short tons)

Year	Old & New Scrap Consumption	Reported/ Apparent Consumption[1]	Scrap Market Share[2]
1977	230,190	1,101,754	21%
1978	199,712	1,158,060	17%
1979	224,546	1,102,968	20%
1980	201,764	894,126	23%
1981	223,858	926,897	24%
1982	188,272	782,072	24%
1983	226,044	888,334	25%
1984	264,203	935,746	28%
1985	240,803	1,036,823[3]	23%
1986	165,507	1,100,799	15%
1987	186,404	1,050,161	18%

Source: U.S. Bureau of Mines

[1] Reported Apparent Zinc Consumption: Defined as primary production + old and new scrap consumed + net trade + stock trade.

[2] Scrap Metal Share: Calculated from old and new scrap consumed (column 2) divided by reported apparent consumption (column 3).

[3] After 1985 Apparent Consumption

Zinc Scrap Exports by Country
(short tons)

Country	1982	1983	1984	1985	1986	1987
Belgium	3,504	7,334	5,388	6,122	7,694	4,396
Canada	511	506	938	798	827	2,542
Dominican, Republic of	80	—	—	—	—	25
Finland	—	—	—	4,652	—	—
France	720	198	860	25	471	—
Germany, Federal Republic of	3,246	4,703	3,880	1,711	1,404	485
India	1,281	299	1,615	1,997	2,646	2,055
Japan	2,442	3,212	3,951	4,535	404	627
Korea, Republic of	191	226	1,143	2,094	3,172	1,164
Mexico	45	—	—	164	81	—
Netherlands	915	19	21	414	272	19
Spain	157	38	132	104	141	—
Taiwan	4,110	6,375	13,118	19,152	52,222	78,143
United Kingdom	1,271	62	422	452	278	352
Venezuela	—	—	19	—	—	20
Other	122	113	404	324	47	987
Total	18,595	23,085	31,890	42,544	69,659	90,815

Source: Department of Commerce

Distilled and Electrolytic Zinc, Primary and Secondary, Produced in the U.S. by Grade (short tons)

Grade	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Special High	198,207	190,788	163,564	151,247	124,154	105,154	135,941	108,336	87,058	—[1]
High	36,188	43,262	27,064	57,308	34,255	86,543	79,246	109,105	93,407	—[1]
Continuous Galvanizing	45,470	69,095	49,906	60,635	63,646	55,843	53,131	28,813	22,695	—[1]
Controlled Lead	28,023	44,444	20,558	42,615	8,391	11,278	10,344	23,095	20,815	—[1]
Prime Western	178,747	231,882	146,596	125,538	102,942	77,476	86,469	98,570	124,662	144,644[2]
Total	486,635	579,471	407,688	437,343	333,406	336,294	365,131	367,919	348,637	377,717

Source: U.S. Bureau of Mines.
[1] Data no longer available from Bureau of Mines.
[2] Figure includes controlled lead.

Average Monthly U.S. Zinc Price (cents per pound)

Month	1977	1978	1979	1980	1981	1982[1]	1983[1]	1984[1]	1985[1]	1986[1]	1987[1]
January	37.00	30.50	34.57	37.44	41.19	42.17	38.61	49.22	42.94	32.87	41.40
February	37.00	30.06	35.62	37.50	41.25	42.72	38.62	50.61	42.65	30.88	38.38
March	37.00	29.00	37.24	38.00	41.30	39.23	37.90	51.07	43.20	31.22	37.70
April	37.00	29.00	38.99	38.01	42.56	35.51	38.00	51.90	44.80	32.13	38.19
May	35.57	29.00	39.39	37.50	45.20	34.67	38.11	52.77	45.12	32.97	42.23
June	34.00	29.01	39.39	36.44	46.12	34.60	39.46	52.45	43.73	36.54	45.05
July	34.00	29.80	39.40	35.50	46.25	35.66	40.01	49.52	41.44	39.55	45.67
August	34.00	31.16	36.90	35.73	47.47	37.79	40.56	47.85	39.84	40.83	44.43
September	34.00	32.37	35.80	36.63[1]	48.72	39.64	42.98	46.42	37.86	43.70	42.59
October	31.90	32.83	36.21	37.27[1]	45.87	40.83	46.11	44.19	35.76	45.98	41.75
November	30.73	34.43	36.82	38.58[1]	46.15	40.39	47.55	43.60	33.36	45.78	42.38
December	30.50	34.50	37.23	40.55[1]	42.59	38.46	48.74	43.62	33.61	43.51	43.31
Average	34.49	30.97	37.30	37.43	44.56	38.47	41.39	48.60	40.37	34.43	41.92

Source: Metals Week.
[1] Based on High Grade Zinc.

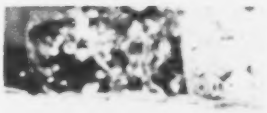
Zinc London Metal Exchange Cash Price (cents per pound)

Month	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
January	31.32	23.47	32.64	35.03	35.22	37.10	31.68	43.41	39.20	29.18	34.43
February	31.86	21.62	35.92	39.39	33.11	37.30	30.88	45.26	40.14	27.58	33.56
March	32.56	23.01	36.00	33.64	34.33	35.78	30.75	47.16	41.70	28.35	33.16
April	29.66	25.12	35.74	32.04	37.31	33.65	31.61	45.52	42.14	29.10	34.53
May	27.71	25.43	35.28	31.31	38.56	34.01	33.34	45.38	39.87	32.06	38.01
June	24.55	26.17	34.13	30.71	38.06	31.33	32.56	42.67	36.56	36.45	39.80
July	24.53	26.45	32.69	32.32	39.21	32.80	33.54	38.70	34.70	36.58	37.59
August	23.54	28.01	30.12	34.83	43.28	32.43	36.67	37.81	33.29	37.01	36.44
September	23.43	28.73	32.79	36.07	42.57	33.97	37.98	38.31	31.24	39.48	34.28
October	23.20	32.31	32.00	36.49	40.41	34.06	38.93	38.09	28.62	40.17	34.89
November	23.79	31.15	31.76	36.33	38.74	32.18	38.97	38.67	27.06	37.17	38.42
December	24.35	31.14	33.98	35.50	38.31	30.30	38.85	38.87	31.05	36.18	39.25
Average	26.71	26.88	33.59	34.47	38.34	33.74	34.73	40.76	36.23	34.18	36.25

Source: Metals Week.

Au

Gold: A heavy, soft, yellow, ductile, malleable metallic element. Symbol Au; melting point, 1,063° C. Commonly alloyed with varying percentages of copper, silver, nickel and palladium.



U.S. Refinery Production of Gold: 10 Year Review
(000 troy ounces)

Raw Material Concentrates and Ore:	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Domestic	956	962	795	773	801	718	885	760	620	2,431	3,381
Foreign	62	71	83	14	4	[1]	7	4	—	[1]	[1]
Old Scrap[2]	1,040	1,384	1,675	2,184	1,610	1,444	1,380	1,310	1,215	1,552	1,978
New Scrap	1,414	1,701	1,208	1,640	1,475	1,596	1,590	1,794	1,520	1,576	1,297
Total	3,472	4,118	3,761	4,612	3,890	3,760	3,863	3,868	3,355	5,529	6,656

Source: U.S. Bureau of Mines.

[1] Foreign figures included with Domestic.

[2] Excludes upgrading of U.S. Government-owned gold by the U.S. Assay Office, amounting to 316,137 ounces in 1977, 2,386,874 ounces in 1978, 3,000,068 ounces in 1979, 2,921,587 ounces in 1980, and 2,476,628 ounces in 1981. Refining activity terminated in September 1981.

Average Gold Price on Comex
(dollar per troy ounce)

Month	1984	1985	1986	1987
January	370.58	302.54	345.71	409.11
February	387.00	298.53	338.67	401.55
March	394.62	305.50	345.86	409.23
April	305.50	324.36	341.30	439.63
May	453.50	315.88	342.51	460.99
June	377.62	316.49	342.96	449.59
July	345.94	317.90	349.69	451.45
August	348.81	330.61	376.94	459.89
September	341.12	322.48	419.39	459.60
October	339.75	326.09	423.55	465.51
November	341.05	325.25	397.51	468.32
December	318.80	322.68	391.85	486.03
Average	360.36	317.36	367.99	446.74

Source: Metals Week

Gold Price on the London Metal Exchange (Final)
(dollar per troy ounce)

Month	1984	1985	1986	1987
January	370.89	302.70	345.38	408.26
February	385.92	299.10	338.89	401.11
March	394.26	303.94	345.70	408.91
April	381.36	325.27	340.44	438.35
May	377.44	316.37	342.38	460.23
June	377.66	316.49	342.72	449.59
July	347.46	317.22	348.34	450.52
August	347.68	329.79	376.59	461.14
September	341.09	323.35	417.73	460.35
October	340.17	325.84	423.51	465.35
November	341.18	325.29	397.55	467.57
December	320.16	321.72	390.92	486.24
Average	360.44	317.26	367.51	446.47

Source: Metals Week

Ag

Silver: A white metallic element. Ductile, very malleable, and capable of a high degree of polish. Symbol Ag, melting point, 960.8° C. Used for coin, jewelry, etc.

U.S. Refinery Production of Silver: 10 Year Review
(000 troy ounces)

Raw Material	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Concentrates and Ores										
Domestic	44,018	38,982	36,171	44,487	43,825	50,281	49,892	53,808	42,413	45,976
Foreign	10,342	11,779	3,182	2,520	344	169	126	—	—	—
Total	54,360	50,761	39,353	47,007	44,170	50,450	50,019	53,808	42,413	45,976
Old Scrap	37,082	39,729	53,131	39,067	27,171	25,549	24,070	27,830	23,159	25,261
New Scrap	41,171	36,714	65,642	44,738	37,812	41,839	45,503	44,643	43,390	42,033
Grand Total	132,613	127,204	158,127[1]	130,812[1]	109,153[1]	117,838[1]	119,592[1]	126,281[1]	108,962[1]	113,269[1]

Source: U.S. Bureau of Mines

[1] Data may not add up to totals shown due to independent rounding

Average Silver Price—Comex 1st Position
(cents per troy ounce)

Month	1984	1985	1986	1987
January	820.01	610.77	606.68	553.72
February	917.28	606.90	585.55	548.46
March	969.15	603.36	563.54	569.90
April	923.97	645.82	522.36	736.43
May	897.12	626.79	510.93	843.53
June	872.94	617.60	514.97	742.57
July	741.39	610.57	505.66	772.04
August	764.68	625.67	521.18	780.55
September	728.19	604.57	569.37	760.68
October	729.72	619.50	567.13	756.01
November	749.66	612.70	556.80	670.83
December	665.23	588.22	536.66	679.17
Average	814.95	614.37	646.69	701.16

Source: Metals Week

Average Silver Price—London Metal Exchange Settlement
(cents per troy ounce)

Month	1984	1985	1986	1987
January	582.69	608.15	603.49	552.67
February	633.80	607.18	586.00	549.08
March	663.74	598.75	563.71	566.15
April	650.48	642.87	520.22	743.92
May	646.37	697.23	506.65	846.30
June	637.06	617.04	513.97	742.68
July	565.36	609.68	501.55	764.64
August	579.82	624.77	520.40	788.82
September	576.28	606.87	563.87	760.23
October	598.04	617.47	562.23	764.70
November	604.05	610.18	557.21	670.47
December	561.48	586.06	537.54	680.81
Average	608.26	618.85	545.70	702.54

Source: Metals Week

PGMs: Silvery white, metallic elements include platinum (Pt), palladium (Pd), ruthenium (Ru), rhodium (Rh), osmium (Os), and iridium (Ir). Characterized by high specific gravity, unusual resistance to oxidizing and acidic attack; high melting points.

Platinum-Group Metals (PGMs) Nontoll Refined in the U.S.: 10 Year Review (troy ounces)

Year	Platinum	Palladium	Iridium	Osmium	Rhodium	Ruthenium	Total
1977	50,838	134,086	1,442	12	5,011	3,830	195,219
1978	75,585	166,371	1,565	3	8,266	5,401	257,191
1979	75,038	220,639	1,647	—	7,964	3,734	309,022
1980	154,075	162,408	3,186	13	10,106	1,135	330,923
1981	187,883	185,764	3,318	64	11,317	3,291	391,637
1982	190,249	139,286	2,896	—	11,302	427	344,160
1983	118,579	177,816	2,357	—	3,663	750	303,165
1984	89,702	243,347	735	27	3,668	2,047	339,526
1985[1]	52,906	204,879	252	—	3,126	1,474	262,637
1986[1]	58,117	172,660	297	—	2,999	1,313	235,386
1987[1]	156,084	222,554	110	556	4,683	1,579	385,566

Source: U.S. Bureau of Mines

[1] Typically, about 99.8% of the platinum and 99% of the palladium are secondary metal; the other metals are entirely secondary.

Platinum-Group Metals (PGMs) Toll Refined in the U.S.: 10 Year Review (troy ounces)

Year	Platinum	Palladium	Iridium	Osmium	Rhodium	Ruthenium	Total
1977	620,848	327,450	4,970	1,955	42,178	6,539	1,003,940
1978	630,961	344,022	6,599	667	35,914	3,797	1,021,960
1979	585,932	446,189	5,487	—	38,875	13,719	1,090,202
1980	533,101	498,905	4,933	1,371	33,362	7,340	1,079,012
1981	520,717	607,397	7,826	1,865	34,870	18,471	1,191,146
1982	393,832	430,564	10,108	885	26,693	6,301	868,383
1983	433,700	456,732	5,820	925	41,624	55,788	994,589
1984	524,158	568,489	7,826	49	37,584	19,288	1,157,394
1985[1]	491,671	490,647	7,007	3	36,335	13,356	1,039,020
1986[1]	493,748	376,091	3,584	1,415	38,041	19,646	932,525
1987[1]	698,994	514,602	8,163	796	45,170	36,930	1,304,655

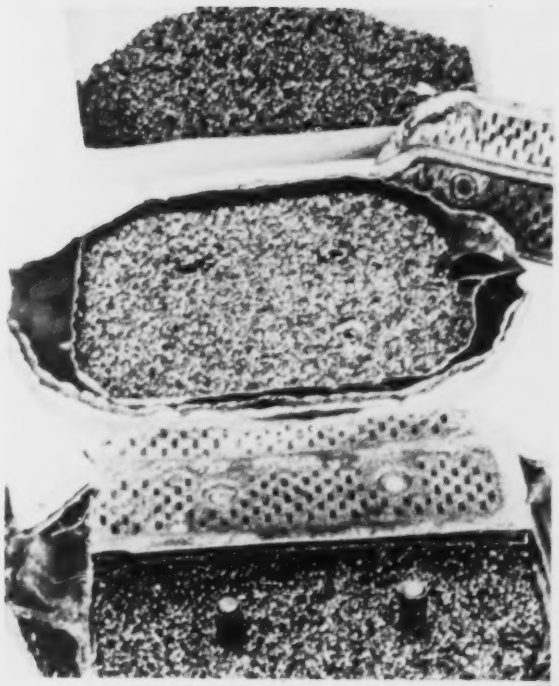
Source: U.S. Bureau of Mines

[1] Typically, about 99.8% of the platinum and 99% of the palladium are secondary metal; the other metals are entirely secondary.

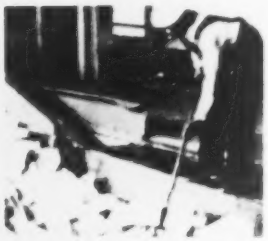
Average Platinum Price—New York Dealer
(dollar per troy ounce)

Month	1984	1985	1986	1987
January	374.50	273.90	364.95	515.00
February	391.05	269.22	373.16	514.63
March	398.23	259.83	413.33	525.23
April	391.90	282.27	417.45	584.50
May	386.33	271.89	411.48	605.00
June	381.29	264.37	432.38	565.27
July	341.14	267.82	439.23	568.30
August	337.63	307.64	536.81	608.34
September	325.58	309.10	595.24	586.33
October	323.82	323.39	570.68	564.48
November	327.42	334.05	510.39	494.21
December	303.00	334.19	474.00	499.50
Average	356.82	291.47	461.59	552.57

Source: Metals Week



Paper Stock: Waste papers, sorted or segregated into various recognized grades. Used as a principal ingredient in the manufacture of certain types of paperboard and various papers.



Paper and Paperstock: 10 Year Review (000 short tons)

Year	Paper and Paperboard Production	Reported Paperstock Consumption	Market Share[1]
1977	60,040	14,585	24%
1978	62,047	15,272	25%
1979	64,345	15,820	25%
1980	63,600	15,394	24%
1981	64,259	15,518	24%
1982	60,958	14,921	25%
1983	66,761	16,122	24%
1984	70,268	17,183	25%
1985	68,833	16,850	25%
1986	72,689	18,428	25%
1987	76,229	19,636	26%

Source: American Paper Institute

[1] Share: Calculated from reported paperstock consumption (column 3) divided by paper and paperboard production (column 2).

Waste Paper Consumption (000 short tons)

Year	Mixed Grades	Newspapers[1]	Corrugated	Pulp Subs.	High Grade Deinking	Total All Grades[1]
1977	2,773.0	2,587.0	6,205.0	2,079.0	944.0	14,588.0
1978	2,729.0	2,512.0	6,721.0	2,242.0	1,068.0	15,272.0
1979	2,648.0	2,780.0	6,967.0	2,308.0	1,117.0	15,820.0
1980	2,268.0	2,864.0	6,866.0	2,254.0	1,142.0	15,394.0
1981	2,233.0	2,852.0	6,910.0	2,307.0	1,216.0	15,518.0
1982	1,707.0	2,973.0	6,770.0	2,247.0	1,224.0	14,921.0
1983	1,908.0	2,992.0	7,443.0	2,456.0	1,323.0	16,122.0
1984	1,974.5	3,194.8	7,971.7	2,673.4	1,368.6	17,183.0
1985	1,901.5	3,175.0	7,899.5	2,493.7	1,380.4	16,850.1
1986	2,044.5	3,417.8	8,633.6	2,761.5	1,570.3	18,427.7
1987/p	2,111.8	3,563.6	9,277.4	2,944.6	1,738.7	19,636.1

Source: American Paper Institute

[1] Includes estimate for non-paper/paperboard uses

/p = preliminary

U.S. Exports of Waste Paper by Grade (short tons)

Year	Newspapers	Old Paperboard	Corrugated Paper and Substitutes	High Grade Pulp Paper, n.e.c.[1]	Mixed Total
1978	366,005	576,653	185,759	471,032	1,599,449
1979	336,138	960,369	288,909	647,830	2,233,246
1980	424,864	1,208,690	381,323	649,395	2,664,272
1981	425,060	991,115	322,511	473,863	2,212,549
1982	439,131	886,655	304,139	497,125	2,127,050
1983	461,218	993,436	414,279	704,783	2,573,716
1984	539,431	1,260,845	549,687	885,478	3,235,441
1985	625,631	1,310,876	469,594	879,825	3,285,926
1986	766,087	1,529,722	759,205	693,697	3,748,711
1987	890,240	1,921,679	892,313	798,104	4,422,336

Source: American Paper Institute
[1] n.e.c. not elsewhere classified

Seven Largest Consuming Countries of U.S. Waste Paper Exports (000 short tons)

Country	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Canada	342	478	451	357	271	347	326	209	226	287
Italy	95	170	199	114	82	56	—	166	154	140
Japan	101	140	201	84	106	266	309	301	399	660
Korea	431	503	408	518	512	557	773	676	839	939
Mexico	237	381	588	346	236	427	455	457	580	781
Spain	—	—	—	—	—	—	95	140	134	130
Taiwan	158	229	370	386	462	545	726	758	892	895
Venezuela	92	118	116	129	129	100	113	—	—	—
Other	143	214	330	279	329	276	439	578	524	591
Total[1]	1,599	2,233	2,664	2,213	2,127	2,574	3,235	3,286	3,749	4,422

Source: American Paper Institute
[1] Data may not add to totals shown due to independent rounding

Textile Exports by Country: 1986
(000 pounds)

Country	Used Apparel	Rags and Scrap Cotton	Rags and Scrap Wool	Rags and Scrap MMF	Others
Bangladesh	24,330	—	—	—	597
Benin	13,882	—	—	—	—
Canada	281	1,446	—	1,624	4,106
Chile	5,735	—	—	149	—
India	8,652	—	814	4,569	1,310
Italy	2,808	—	1,440	1,323	39,619
Netherlands	—	547	—	—	1,383
Pakistan	39,073	—	—	217	2,619
Singapore	4,252	—	—	—	—
Spain	1,626	—	—	1,496	48,326
Tanzania	12,577	—	—	—	—
Tunisia	975	—	—	—	17,123
Zaire	19,022	—	—	—	—
All Other	91,654	3,239	2,166	6,778	24,155
Total	224,867	5,232	4,420	16,156	139,238

Source: Bureau of the Census
MMF = man made fabric

Textile Exports by Country: 1987
(000 pounds)

Country	Used Apparel	Rags and Scrap Cotton	Rags and Scrap Wool	Rags and Scrap MMF	Others
Bangladesh	14,591	—	—	33	492
Benin	10,972	226	34	19	243
Canada	1,330	2,003	28	1,509	4,414
Chile	4,783	275	21	23	1,029
India	3,833	42	186	989	4,126
Italy	2,409	80	1,498	401	29,496
Netherlands	2,565	288	—	168	2,509
Pakistan	23,088	95	183	124	1,324
Singapore	3,373	—	—	—	248
Spain	1,911	161	314	494	51,949
Tanzania	7,871	213	—	760	606
Tunisia	2433	—	—	—	15,174
Zaire	11,379	—	—	284	877
All Other	73,245	2,578	1,074	13,133	24,698
Total	163,783	5,961	3,338	17,937	137,185

Source: Bureau of the Census

ISRI, INC.

The Institute of Scrap Recycling Industries, Inc. (IRSI) was founded on June 9, 1987, by the merger of the Institute of Scrap Iron and Steel, Inc., and the National Association of Recycling Industries, Inc. The 1,800 member firms that belong to the association are processors, brokers and consumers of scrap commodities—ferrous and nonferrous metals, paper, plastic, and textiles—and suppliers of equipment and services to our industry.

FACTS
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